

REMARKS

The above amendment corrects the omission of a Serial No. of an application filed on October 30, 2001 on page 45.

Claims 1 to 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Saito alone or in combination with Lunt. Applicants respectfully traverse this rejection. Neither Lunt nor Saito, alone or in combination, disclose or suggest Applicants' invention. As a threshold matter, Applicants have amended claims 1 and 14 to provide that L is not -O-CO- and that the ETARC is located in the least sensitive layer of the dye forming unit. Support for these amendments is found at page 7, line 14 of the current specification and in original claim 11. Saito specifically teaches the benefits of an electron transfer agent releasing coupler (ETARC) having an -O-CO- linking group. In fact, compounds similar to E-2, (see Comparative Couplers 3 and 4 at col. 65 of Saito) "fail" according to Saito if an OCO link is not used. Therefore, Saito teaches away from Applicants' invention with regard to the ETARC utilized.

Also, Saito does not recognize or suggest Applicants' discovery that the contrast loss experienced in a shortened development time can be best mitigated by the use of an ETARC in the least sensitive layer, particularly in the slow cyan. First, Saito is not directed to rapid processing. At col. 39, line 14, Saito, while acknowledging that shorter development times may be used, states that the color development processing time is usually set between 2 and 5 minutes. Additionally, most of the examples of Saito utilize a development time of greater than 120 seconds. Secondly, in the examples, Saito only uses the ETARC in the most red sensitive layer (fast cyan). In contrast, Applicants' invention requires that the ETARC be in the least sensitive layer of the color record.

Therefore, in order to arrive at Applicants' invention, one utilizing Saito for guidance would first have to use a class of ETARC compounds that is disfavored by Saito. Then one would have to place the compound in a layer that is contrary to all of the examples of Saito, and then one would have to choose to use a rapid development system. It is highly unlikely that one skilled in the art would make such a series of choices.

Lunt, while it does disclose the ETARCS utilized in Applicants' invention, would not be combined with Saito by one skilled in the art to arrive at Applicants' invention. Lunt and Saito use different ETARCS so there is no motivation to combine the references; in fact, Saito teaches away from such a combination. Saito expressly shows that ETARCS similar to E-2 do not work as well, so why would one skilled in the art utilize such an ETARC in the system of Saito?

Furthermore, Lunt also does not recognize or suggest Applicants' discovery that the contrast loss experienced in a shortened development time can be best mitigated by the use of an ETARC in the least sensitive layer, particularly in the slow cyan. As with Saito, Lunt is not directed to rapid processing and, in fact, no mention of rapid processing is made. The examples of Lunt utilize a development time of greater than 120 seconds. Additionally, in the examples Lunt only uses the ETARC in the most red sensitive layer (fast cyan). In contrast, Applicants' invention requires that the ETARC be in the least sensitive layer of the color record. Again, one using Lunt for guidance would not arrive at Applicants' invention.

Claims 1 to 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nakai alone or in combination with Lunt. Applicants respectfully traverse this rejection. Nakai's invention requires that a certain class of PUG releasing compound react with a complexing agent in the developer during processing in order to boost the contrast of the red record in rapid development. Nakai does not teach that an advantage will be achieved in "standard" chemistry with a shorter development time. It is not the positioning in the photographic element of the PUG releasing compound of Nakai that is important, rather it is the inactivation by chelation which is vital.

The compounds of Nakai that release a PUG must be compounds which are deactivated by chelation with a metal. This is a totally different class of compounds than those utilized in Applicants' invention. Specifically, compounds 1-9, 12, 25-27, and 29-36 are complexes that release ETA upon reaction with a specific complexing component of the developer solution in a non-imagewise manner, rather than in an imagewise manner as required for the compounds of Applicants' invention. Compounds 37-41, 45, 46, 47, and 57 are couplers that release ETA in an imagewise manner, but the coupler moieties are further complexed to Zn and so are deactivated until they react with a particular component in the developer solution. Therefore, the above compounds do not release $-(L)_n$ -ETA

solely on reaction with oxidized developing agent; rather they require a chelating agent for release. Compound 48 releases an inhibitor-like molecule, not an ETA. Compounds 43, 44, 53, and 64 are ETARCs where the ETA is not active until the Zn is removed by reaction with a specific chelating component of the developer solution. However, compounds 43, 44 and 64 all have an -O-CO- linking group and such compounds are excluded from amended claim 1. Compound 53 releases an ETA which has a clog P which is less than 2.4. In fact, the vast majority of the compounds noted by the Examiner release an ETA which has a clog P which is less than 2.4. All of these Naki compounds require the presence of a complexing agent in the developer solution that undergoes a reaction with the Zn in the ETA releasing compound that releases or activates the ETA and are therefore quite different from the compounds of Applicants' invention.


Applicants' invention does not require a chelating agent in the developer that will displace the metal atom from the ETA containing material. Imagewise reaction with oxidized developer at the coupling site of the ETARC is all that is needed.

Lunt has been discussed above. Additionally, there is no motivation to combine Lunt with Nakai. One skilled in the art would realize that the compounds of Lunt are not deactivated by chelation with a metal. Nakai, in fact, teaches away from a combination with Lunt.

Applicants have also amended claims 1 and 14 to provide that a contrast enhancing amount of the ETARC compound is used. Support for this amendment is found at page 4, line 7 of the specification. This should alleviate the Examiner's concern that the amount of ETARC used would not give the result shown in the Examples. Applicants have also amended claims 1 and 14 to provide that the processing time is from 20 to 120 seconds or 100 seconds respectively. Support for this amendment is found at page 36, line 26.

Attached hereto is a marked up version of the changes made to the claims by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made.**"

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Version With Markings to Show Changes Made

In the Specification:

The paragraph beginning on page 45, line 20, has been amended as set forth below:

Another processor and processing method with which the current invention is particularly useful is the merged process described in U.S. Application Serial No. [] 10/012,673 of Twist, "Processing Photographic Material" filed on October 30, 2001, the disclosure of which is incorporated herein by reference. This processing method for silver halide photographic material comprises loading the material into a chamber, introducing a metered amount of a first processing solution into the chamber, and processing the photographic material with the first processing solution. It then comprises introducing a metered amount of a second processing solution into the chamber without removing the first processing solution so that at least part of the whole volume of the second processing solution is provided by the first processing solution and processing the photographic material with the second processing solution. The merged method further comprises, after processing the photographic material with the second processing solution, introducing a metered amount of a third processing solution into the chamber without removing any processing solution remaining from the preceding processing solution or solutions so that at least part of the total volume of the third processing solution is provided by the preceding processing solution or solutions and processing the photographic material with the third processing solution.

In the Claims:

Claim 1 has been amended as set forth below:

1. (Once Amended) A method of processing a silver bromoiodide photographic element comprising contacting the photographic element with a color developer for [less than] 20 to 120 seconds; wherein the photographic element comprises a support and more than one dye forming unit, and wherein the least light sensitive layer of the dye forming unit closest to the support contains a contrast enhancing amount of an electron transfer agent releasing compound represented by the formula:

-8-
CAR-(L)_n-ETA

wherein:

CAR is a carrier moiety which is capable of releasing -(L)_n-ETA on reaction with oxidized developing agent;

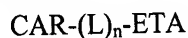
L is a divalent linking group, with the proviso that L is not -O-CO-; n is 0, 1, or 2;
and

ETA is a releasable 1-aryl-3-pyrazolidinone electron transfer agent having a calculated log partition coefficient (c log P) greater than or equal to 2.40 bonded to L or CAR through either the nitrogen atom in the 2-position or the oxygen attached to the 3-position of the pyrazolidinone ring.

Claim 11 has been cancelled.

Claim 14 has been amended as set forth below:

14. (Once Amended) A method of processing a silver bromiodide photographic element comprising contacting the photographic element with a color developer for 20 to 100 seconds [or less]; wherein the photographic element comprises a support and more than one dye forming unit, and wherein the least sensitive layer of the dye forming unit closest to the support contains a contrast enhancing amount of an electron transfer agent releasing compound represented by the formula:

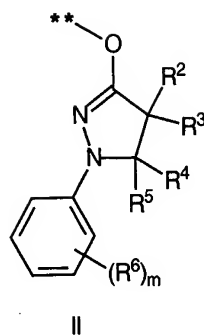
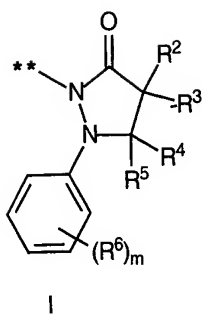


wherein:

CAR is a coupler moiety which is capable of releasing -(L)_n-ETA on reaction with oxidized developing agent;

L is a divalent linking group, with the proviso that L is not -O-CO-; n is 0, 1, or 2;
and

ETA is a releasable 1-aryl-3-pyrazolidinone electron transfer agent having a calculated log partition coefficient (c log P) greater than or equal to 2.40 wherein ETA is represented by the formulas:



**denotes point of attachment to CAR-(L)_n;

wherein:

R² and R³ each independently represents hydrogen, a substituted or unsubstituted alkyl group having from 1 to 12 carbon atoms, CH₂OR⁷ or CH₂OC(O)R⁷ where R⁷ is a substituted or unsubstituted alkyl, aryl or a heteroatom containing group;

R⁴ and R⁵ each independently represents hydrogen, a substituted or unsubstituted alkyl group having from 1 to 8 carbon atoms or a substituted or unsubstituted aryl group having from 6 to 10 carbon atoms;

R⁶ is independently a substituent; and m is 0 to 5 wherein when m is greater than 1, the R⁶ substituents may form a carbocyclic or heterocyclic ring.